



US00D975274S

(12) **United States Design Patent**  
**Suh et al.**

(10) **Patent No.:** **US D975,274 S**  
(45) **Date of Patent:** **\*\* Jan. 10, 2023**

(54) **PRECISION SYRINGE PLUNGER**

(71) Applicant: **The Board of Regents of the University of Nebraska**, Lincoln, NE (US)

(72) Inventors: **Donny Suh**, Omaha, NE (US); **Tyler Scherr**, Omaha, NE (US); **Ronald Linke**, Elkhorn, NE (US); **Samantha Busch**, Indian Land, SC (US); **Phil Leopold**, Windermere, FL (US); **Chris Steadham**, Harrisburg, NC (US); **Brian Walsh**, Charlotte, NC (US)

(73) Assignee: **BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA**, Lincoln, NE (US)

(\*\*) Term: **15 Years**

(21) Appl. No.: **29/739,559**

(22) Filed: **Jun. 26, 2020**

(51) **LOC (14) Cl.** ..... **24-02**

(52) **U.S. Cl.**  
USPC ..... **D24/130; D24/114**

(58) **Field of Classification Search**  
USPC .... D24/108, 110.6, 112–114, 127, 129, 130, D24/133, 138, 146–148, 224–226, 231, D24/232; D8/99; 604/214, 218, 221, 604/224, 227, 234, 235, 236  
CPC ..... A61M 5/31513; A61M 5/31511; A61M 5/31505; A61M 5/315; A61B 5/150236  
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D238,247 S \* 12/1975 Thomas, III ..... D8/99  
D264,802 S \* 6/1982 Osada ..... D24/147  
4,858,810 A \* 8/1989 Intlekofer ..... A61B 17/22  
226/127

(Continued)

*Primary Examiner* — Jonathan J Han

*Assistant Examiner* — Amanda J Berlinski

(74) *Attorney, Agent, or Firm* — Nasr Patent Law LLC; Faisal K. Abou-Nasr

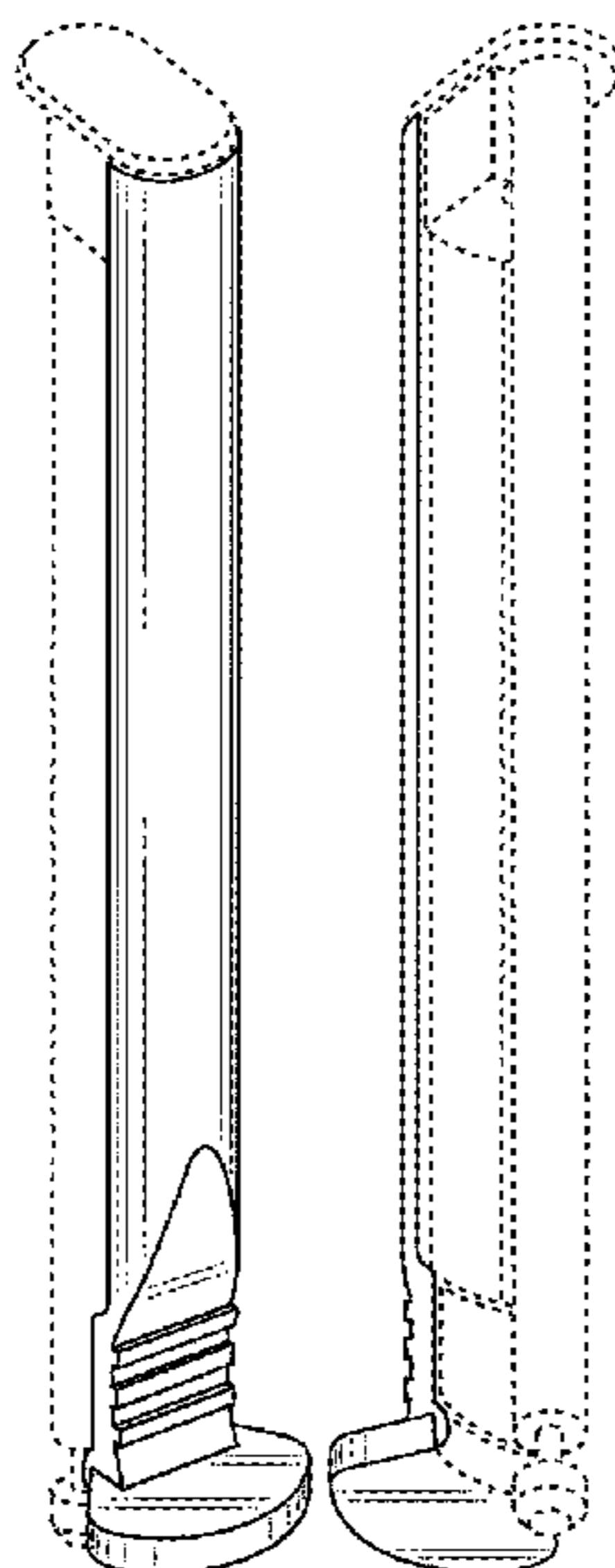
(57) **CLAIM**

The ornamental design for a precision syringe plunger, as shown and described.

**DESCRIPTION**

FIG. 1 is a front perspective view of a precision syringe plunger showing the plunger in a precision syringe; FIG. 2 is a front perspective view of the precision syringe plunger of FIG. 1, showing the plunger in partial environment; FIG. 3 is a rear perspective view of the precision syringe plunger of FIG. 1, showing the plunger in partial environment; FIG. 4 is a front elevation view of the precision syringe plunger of FIG. 1, showing the plunger in partial environment; FIG. 5 is a left side elevation view of the precision syringe plunger of FIG. 1, showing the plunger in partial environment; FIG. 6 is a rear elevation view of the precision syringe plunger of FIG. 1, showing the plunger in partial environment; FIG. 7 is a right side elevation view of the precision syringe plunger of FIG. 1, showing the plunger in partial environment; FIG. 8 is a bottom plan view of the precision syringe plunger of FIG. 1, showing the plunger in partial environment; and, FIG. 9 is a top plan view of the precision syringe plunger of FIG. 1, showing the plunger in partial environment. The broken lines shown in the figures depict portions of the precision syringe plunger and environmental structure that form no part of the claimed design.

**1 Claim, 5 Drawing Sheets**



(56)

References Cited

U.S. PATENT DOCUMENTS

5,167,640 A \* 12/1992 Balding ..... A61M 5/3243  
604/192  
5,601,077 A \* 2/1997 Imbert ..... A61M 11/00  
128/200.14  
D379,515 S \* 5/1997 Kuehn ..... D24/146  
D418,915 S \* 1/2000 Doms ..... D24/107  
D439,974 S \* 4/2001 Wilkinson ..... D24/130  
D450,839 S \* 11/2001 Junker ..... D24/130  
D458,679 S \* 6/2002 Thompson ..... D24/133  
D466,214 S \* 11/2002 Otsuka ..... A61B 17/3211  
D24/146  
D483,871 S \* 12/2003 Endo ..... D24/147  
D491,275 S \* 6/2004 Walters ..... D24/216  
D492,774 S \* 7/2004 Cindrich ..... D24/130  
D496,102 S \* 9/2004 Watermeier ..... D24/133  
D496,730 S \* 9/2004 Morawski ..... A61B 17/3211  
D24/133  
D561,898 S \* 2/2008 Goto ..... A61B 17/3211  
D24/146  
D581,527 S \* 11/2008 Jansen ..... D24/130  
D592,746 S \* 5/2009 Highley ..... D24/133  
D598,096 S \* 8/2009 Petersen ..... D24/133  
D655,813 S \* 3/2012 Row ..... D24/129  
D666,290 S \* 8/2012 Jones ..... D24/133  
D710,497 S \* 8/2014 Pham ..... D24/130  
D739,020 S \* 9/2015 Kumar ..... D24/147  
D748,813 S \* 2/2016 Ishiguro ..... D24/224  
D758,566 S \* 6/2016 Chen ..... D24/113  
D771,247 S \* 11/2016 Shinohara ..... A61M 5/3243  
D24/130  
D779,670 S \* 2/2017 Krystyniak ..... D24/146

D787,666 S \* 5/2017 Ohashi ..... A61B 5/150236  
D24/130  
D807,502 S \* 1/2018 Davis ..... A61B 90/39  
D24/130  
D818,583 S \* 5/2018 Harlev ..... A61B 5/150251  
D24/130  
D825,747 S \* 8/2018 Davis ..... A61B 17/3213  
D24/130  
D827,817 S \* 9/2018 Davis ..... A61B 17/3211  
D24/130  
D831,203 S \* 10/2018 Davis ..... A61B 17/3468  
D24/130  
10,232,146 B2 \* 3/2019 Braithwaite ..... A61M 25/0631  
D872,299 S \* 1/2020 Trump ..... D24/224  
10,722,338 B2 \* 7/2020 McArthur ..... A61F 2/0108  
D912,813 S \* 3/2021 Harder ..... D24/135  
D933,820 S \* 10/2021 Ota ..... D24/133  
D940,302 S \* 1/2022 Wu ..... D24/113  
2004/0054374 A1 \* 3/2004 Weber ..... A61B 17/3468  
606/107  
2008/0009890 A1 \* 1/2008 Holman ..... A61B 17/3211  
606/167  
2010/0168773 A1 \* 7/2010 Funderburk ..... A61B 17/3213  
606/167  
2011/0028836 A1 \* 2/2011 Ranpura ..... A61B 90/39  
600/432  
2011/0046604 A1 \* 2/2011 Felsovalyi ..... A61M 5/3134  
604/506  
2012/0316466 A1 \* 12/2012 Crawford ..... A61B 5/150251  
600/576  
2015/0196714 A1 \* 7/2015 Creaturo ..... A61M 5/3243  
604/198  
2020/0368443 A1 \* 11/2020 Suh ..... A61B 5/150236  
2022/0023545 A1 \* 1/2022 Suh ..... A61M 5/31515

\* cited by examiner

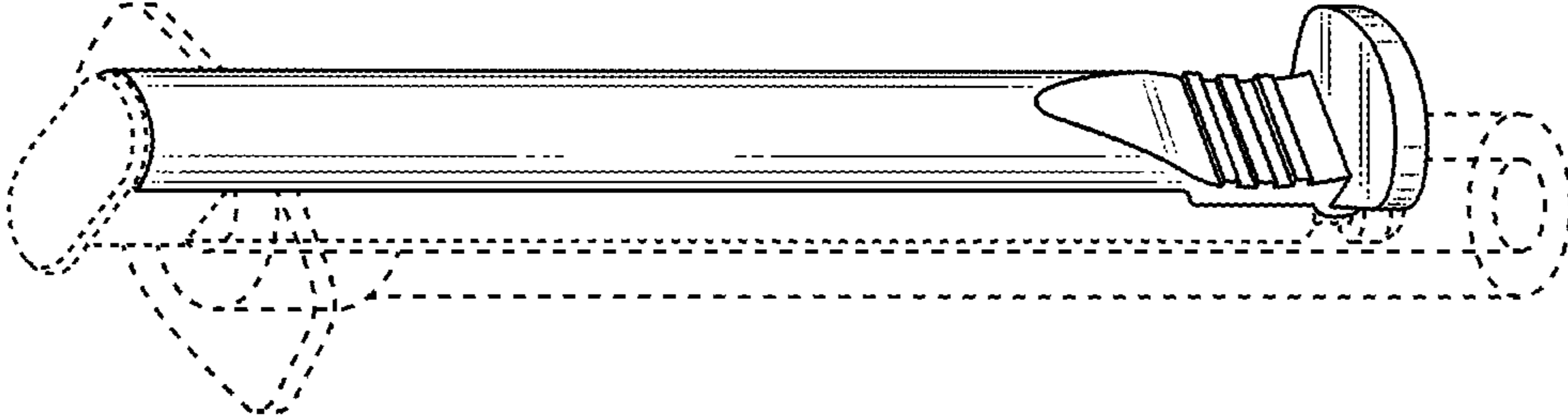


FIG.1

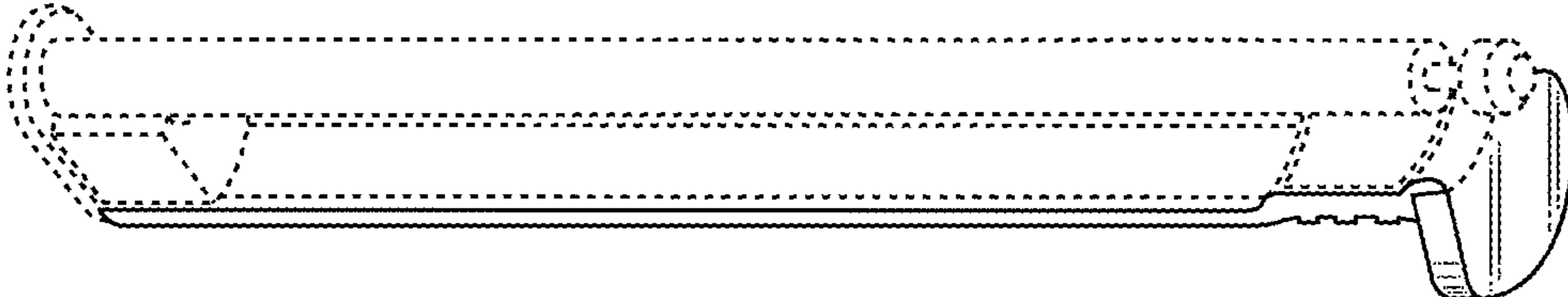


FIG. 3

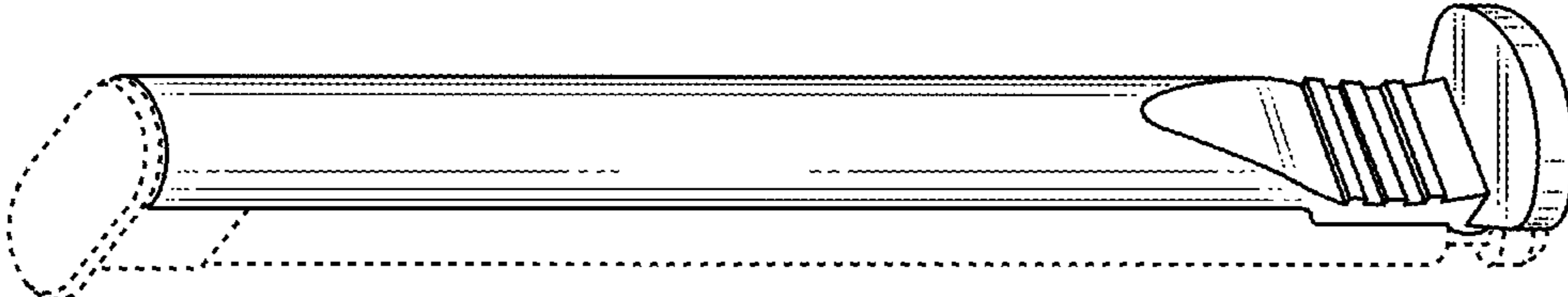


FIG. 2

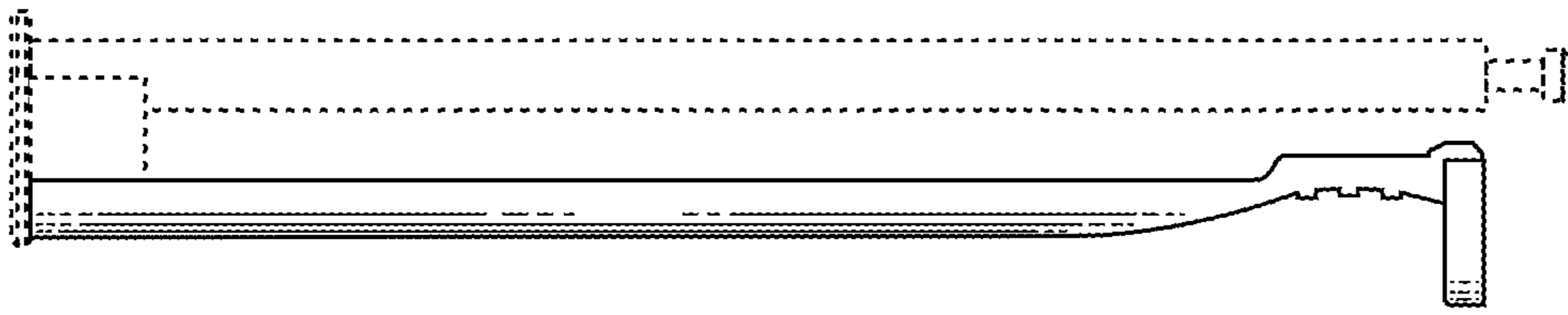


FIG. 5

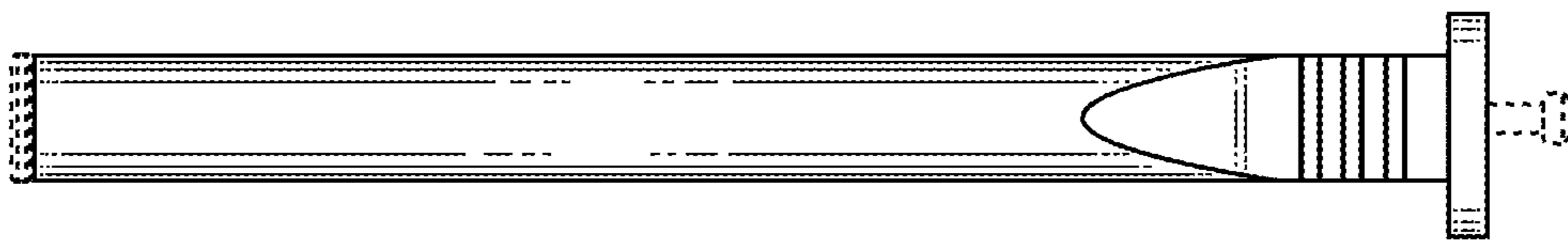


FIG. 4

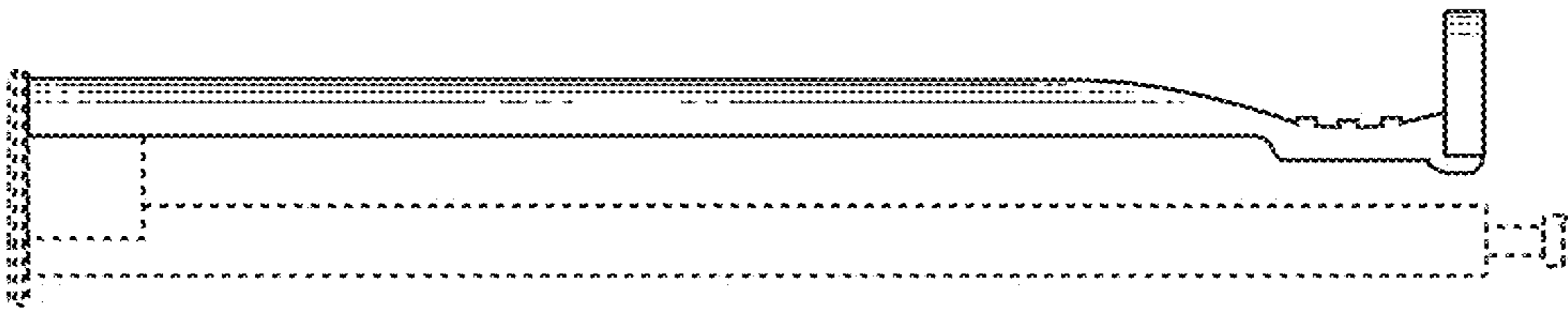


FIG. 7

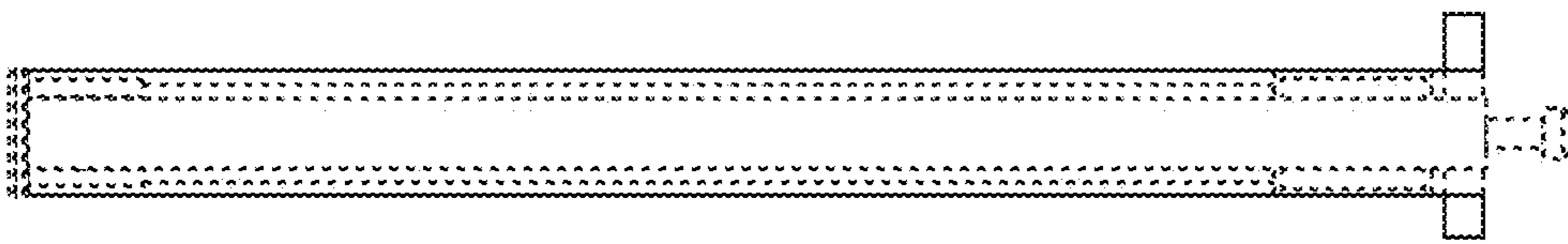


FIG. 6

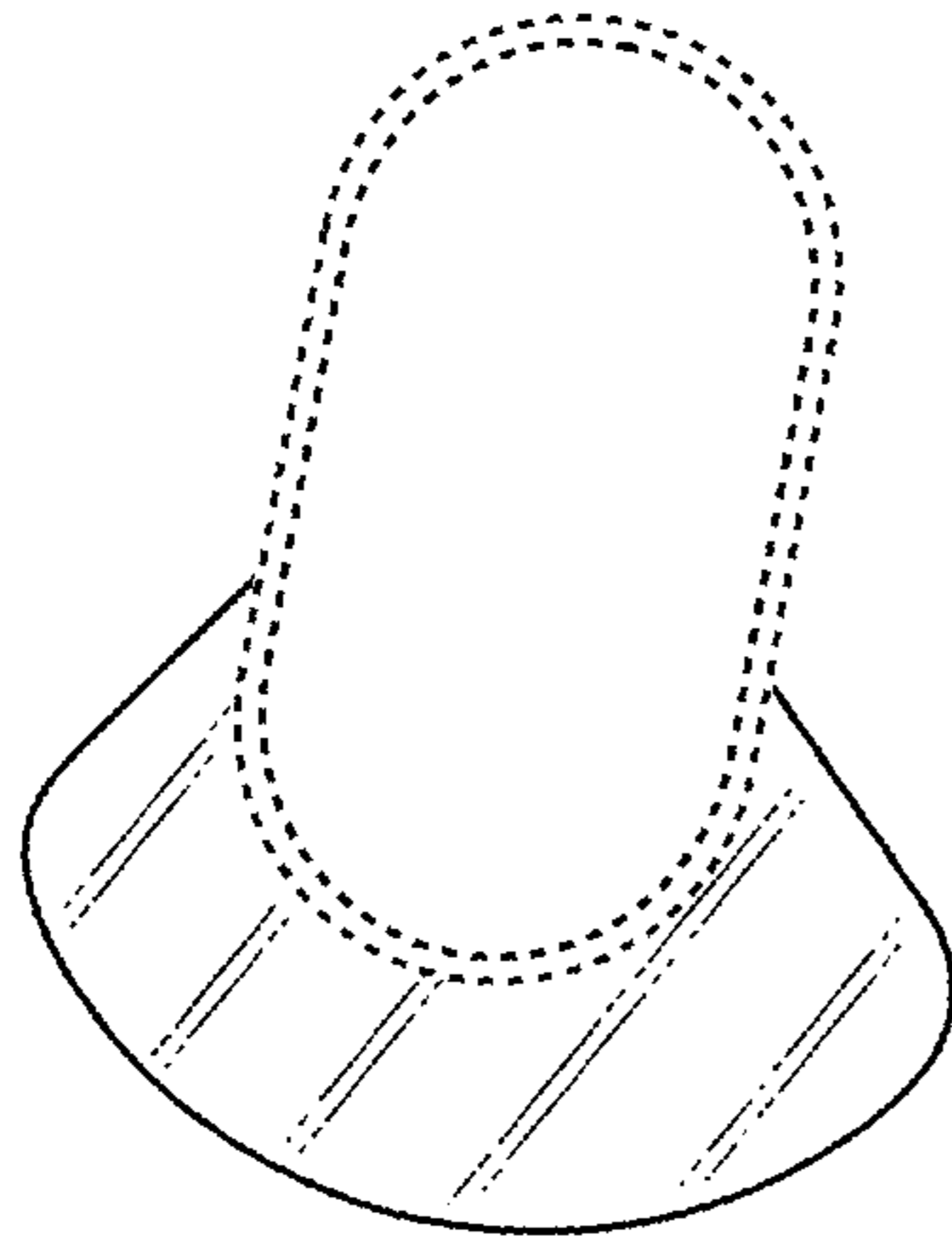


FIG. 9

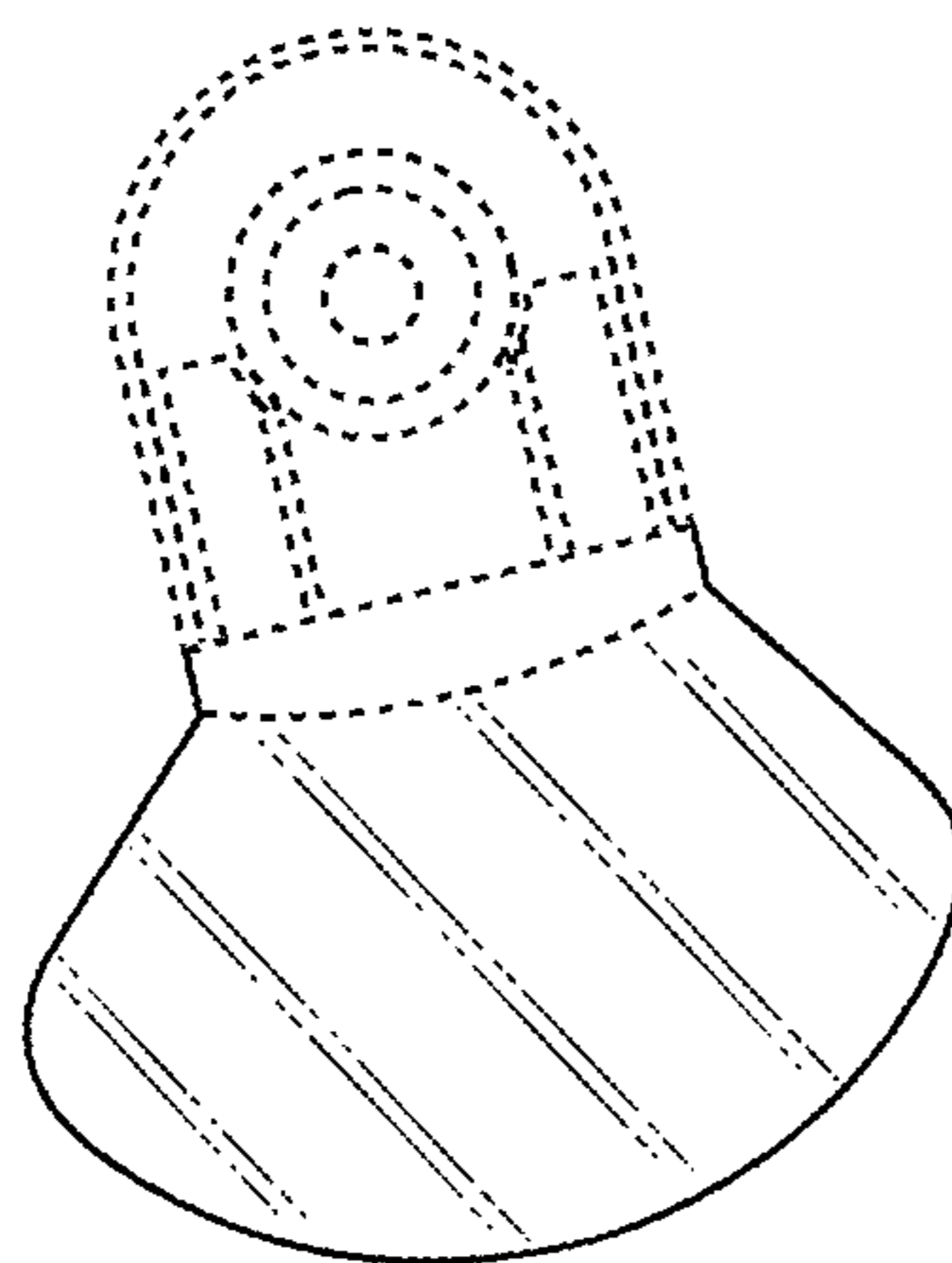


FIG. 8